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A STUDY ON SOCIO-ECONOMIC TRANSFORMATION OF BIHAR SINCE 1991

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Introduction

Bihar, a state in eastern India, has been on a transformative journey in recent decades, evolving its economic landscape and challenging historical constraints. Bihar, one of India's most populous states, has undergone a significant economic transformation over the years. Nestled in the Gangetic plains, the state has faced a myriad of challenges but has also witnessed commendable efforts to spur economic growth, particularly in recent decades.

Historically, Bihar has faced economic challenges, rooted in factors such as poor infrastructure, inadequate education, and agrarian issues. The state, once a powerhouse during ancient times with vibrant trade and intellectual centers like Nalanda, experienced a decline, leading to economic underdevelopment. However, Bihar's historical legacy also includes being the birthplace of major religions like Buddhism and Jainism, contributing to its cultural richness.Significant achievements of Bihar in trade and economic engagement within the state and outside of the Indian sub-continent emerge from a past that appears to have left no living legacy in today’s Bihar--a past so alien as to be either simply forgotten or treated as being completely incredible.

Bihar comprises about 3%of the total geographical area of India and about 8.60% of its total population (121.08 crore, Census 2011) in the one of the most densely populated states of the country. However with an urban population of just 11% it is one of the least urbanized among the major states of India. The states continue to be among the economically most backward ones with one of the lowest per capita incomes and highest incidence of poverty in the country.

Agriculture has long been the backbone of Bihar's economy, with a majority of its population engaged in farming. The fertile Gangetic plains make the state

conducive to agriculture, and crops like rice, wheat, and maize are cultivated. Despite its potential, Bihar's agriculture has faced challenges such as fragmented landholdings, inadequate irrigation facilities, and limited access to credit. Agriculture contributes only to about a fifth of the total GSDP, while it employs more than 62% of the total workers in the states. Industry and services comprised the remaining 80% (20% and 60% respectively) of the GSDP and employs 16.6% and 21.6% of the workforce, respectively.

In recent years, Bihar has endeavored to break free from its historical economic constraints. The state has witnessed efforts to boost industrialization through policies like the Bihar Industrial Investment Promotion Policy (BIIPP). These policies aim to attract investments, provide incentives to industries, and create a business-friendly environment. The focus on sectors like information technology, food processing, and renewable energy signifies a shift towards economic diversification.

Ghosh and Gupta's (2010) and Sharma's (1995) arguments that the failure of growth in Bihar was largely a failure of the services and industrial sectors to expand. This in turn raises questions about the nature of the prevailing policy environment in Bihar during the 1990s, particularly because during the 1990s, Bihar's access to mineral resources was largely intact. Poor growth and economic expansion in this period also reinforced poor human development indicators, so that Bihar was ranked at the bottom of the HDI table in 1991, 2001 and in 2021.

Improving infrastructure has been a priority for Bihar's economic resurgence. Investments in roads, bridges, and connectivity have aimed at not only facilitating transportation within the state but also creating an environment conducive to industrial and economic activities. The improvement of infrastructure contributes to Bihar's integration into the national economic mainstream.

In 1990-91, Bihar's per capita state GDP was Rs 2,660, India's per capita net national income was Rs 5,365 and for comparison's sake Tamil Nadu's was Rs

4,983. By 2004-05, Bihar was at Rs 7,914, India Rs 24,143 and TN raced ahead to Rs 30,062. Notice that Bihar's per capita income fell to 33% of India's from 49% in 1990-91. In 2019-20, Bihar's per capita income was Rs 46,664, stuck at 34% of India's Rs 1.34 lakh, while TN clocked Rs 2.18 lakh.

The migration from rural Bihar is high and has steadily increased in the 30 years' time periods under study. The proportion of migrant's workers to total workers increased from 15.7% in 1998-99 to 25.5% in 2009-10.The proportion of long term workers has increased in the migration steam from 40% to 48.6% from 1998-99 to 2009-10.At the same time, the proportion of households with temporary migration increased from 19.4% in 181-83 to 22.6% in 1998-99 to 35.0% in 2009-10

The economic landscape of Bihar between 1991 and 2004 was marked by a mix of challenges and nascent initiatives. The state grappled with issues inherited from the past, but it also witnessed the initial steps toward a more holistic and inclusive approach to economic development. The subsequent years would see Bihar evolving further, with the continuation of these efforts and the introduction of new policies aimed at fostering sustainable growth and development.

The period between 2004 and 2014 marked a significant chapter in Bihar's economic journey. The state witnessed positive shifts in agriculture, infrastructure, and industrialization, laying the foundation for future growth. While challenges persisted, the decade set the stage for Bihar to emerge as an economically vibrant and dynamic player in the Indian landscape.

Bihar's economy after 2014 reflects a commitment to transformative development. The state has made strides in infrastructure, agriculture, industry, and the social sector. While challenges persist, the trajectory indicates a positive shift, and Bihar's ongoing efforts to create a conducive business environment and promote inclusive growth position it for continued economic transformation in the years ahead.

The Literature Review:

B. B. Bhattacharya and S. Sakthivel (2007): This study attempts to probe this question" Has regional disparity widened in the post-reform period? "By analysing growth rates of aggregate and sectoral domestic product of major states in the pre- and post-reform decades. The results indicate that while the growth rate of gross domestic product has improved only marginally in the post-reform decade, regional disparity in state domestic product (SDP) has widened much more drastically. Industrial states are now growing much faster than backward states, and there is no evidence of convergence of growth rates among states. Disturbingly, there is now also an inverse relationship between population growth and SDP growth. This has serious implications for employment and for the political economy of India.

Das Gupta, 2010: An examination of the Central Statistical Organisation data for the decade since 1999-2000, however, reveals a cyclical move towards a higher growth continuum rather than any structural break under the NDA government. It has now become almost conventional wisdom that Bihar under

the National Democratic Alliance government has moved onto a new and higher growth path. The recent growth path represents the resumption of a long, fluctuating and volatile movement towards a trade-led higher growth continuum that had started in 1994-95 but was interrupted by the impact of bifurcation of Bihar in 2001. A preliminary proposition is that the process of movement to a higher growth continuum since 1994-95 in Bihar follows from the diversified patterns of accumulation through the agency of new entrants to accumulation as an outcome of the social justice movement in Bihar. The evidence presented here belies the propositions around a "growth miracle" under the NDA government and indicates a politically fractious movement of Bihar's economy since bifurcation to a volatile higher growth continuum that is lopsided in three dimensions — regional, sectoral and social.

Alakh N. Sharma (2005): Two developments in the last three decades - mobilisation of the poor peasants and increased migration - appear to be the most striking agents of change in rural Bihar. These changes were set in motion from the 1950s, following an incomplete land reform programme that ostensibly favoured the middle landlord class. Increasing poverty, poor returns from land and rising rent demands have since then widened the ranks of the poor peasantry which now consist of a mix of several castes. It is again from these sections that most migration to urban areas, chiefly as unskilled or low-skilled labour, takes place. On the other hand, middle castes chiefly drawn from upper backward castes increasingly make up the landlord class. It is these caste groups that have been able to perpetuate their dominance by also making up and aligning with the dominant political classes. On their part, the radical Left organisations that have made headway in several areas of south and north Bihar have been unable to mobilise rising peasant class consciousness in rural areas, due to their inability to fully comprehend the dichotomy that defines caste and class in the state.

Guruswamy (2007): Documents the nature of inequality in access to funds that such discretionary schemes have generated by comparing funds allocated under various Plans for Bihar with those for Punjab. Punjab's per capita income tends to be about five times greater than that of Bihar, and he tries to explain this in terms of differential public investment in these two states. Using data, he argues that Punjab systematically got more than the national average for public investment while Bihar received progressively less over various Plans than the national average. It is estimated that there is a total deficit of Rs. 77,161 crore over time in what Bihar should have received. This does not even factor in the sort of benefits that the state of Punjab would have got through subsidies for its overwhelming use of fertilizer and electricity for agriculture, benefits from the Bhakra Nangal dam, etc. These numbers are merely indicative and suggest that there has been gross oversight in providing resources to Bihar.

Stuti Khemani (2021): This article proposes reform ideas for Bihar using advances in economics research on the role of institutions in economic development. Institutions—the formal and informal rules of the 'game' of how people interact in society—are fundamental determinants of economic activity and entrepreneurship. Historical institutions of caste-based feudalism in Bihar have been regarded as depressing entrepreneurship and encouraging lawlessness and corruption. New survey data–based evidence shows the potential of two reforms to bring about Bihar's institutional and economic transformation: greater delegation of public policy implementation in bureaucracies and greater decentralization of public policy selection to local governments. Greater delegation means giving autonomy and discretion to agents in bureaucracies, and promoting professional norms for service delivery rather than hierarchical monitoring and disciplining to achieve performance. Communication within bureaucracies and through local media about the performance of public policies is part of these institutional reforms. Taken together, these can reduce the influence of patronage politics and enable the selection of leaders who pursue policies in the broad public interest. In turn, these institutional changes can spur greater economic activity and entrepreneurship, including all social groups in growth and prosperity.

Alakh. N. Sharma and Gerry Rodgers (2015): This paper uses longitudinal household data from a sample of villages to explore changes in production relations, land and other assets, agricultural development and occupational diversification. There has been a significant change in class structure and a shift away from agricultural occupations for male workers (much less for female), but non-agricultural work is mainly outside the village and largely outside the state. Real wages have risen substantially, more than can be explained by rising agricultural productivity, migration being an important contributory factor. But the segmentation of the rural labour market has increased and local development is uneven. Bihar has been showing signs of emerging from

stagnation and backwardness. For this to occur in full, an agrarian transformation is central in a state where urbanisation remains very low.

Oxfam India & A.N. Sinha Institute of Social Studies: Mapping Inequality in Bihar Mapping inequality in Bihar: Indian leaders who struggled for independence took lessons from the Russian revolution and the French revolution. The objectives of the French Revolution were liberty, equality, and fraternity. Our constitution makers also support these democratic values. These democratic values of execution depend on our government of state and center. In India, regional disparities and caste discrimination both exist, and caste inequality has been around for a thousand years. At every stage of the election, caste factors play pivotal roles. Bihar state is the best example of this type of inequality, discrimination, or disparity. Public policy is the main cause and plays a crucial role in these disparities. Bihar state's rural poverty is in third place, after Odisha and Jharkhand. Bihar, which ranks first, has more than 40% of children under the age of five who are stunted. Bihar is in the fifth position with the lowest (68.9 year) life expectancy at birth. The literacy rate is just 61.8 percent, and Kerala is in first place with 94 percent. Bihar is the most populous state and has struggled with unemployment, poverty, and inequality since independence. Kerala is recognized for the most indicators of development in India, even more than the development of several African countries, while Bihar state recognizes marginal states in most indicators of development just because of the public policy of the state government.

S Santra, RKumar, N Bagaria (2014): In Bihar, the per capita net state domestic product (NSDP) is the lowest among the major states in India, and it is only one-third of the national level of per capita GDP. The services, industry, and agricultural sectors contributed 52 percent, 28 percent, and 20 percent to India’s overall GDP respectively, in 2006. However, the contribution of these major sectors to GDP at state level is not uniform. For Bihar at state level, the share of primary sector is continuously decreasing over the stated time period. For the secondary sector, the share had decreased after bifurcation of Bihar,

however, that share increased a little bit in 2009-2010. And similar to the India average, the share for Tertiary sector is continuously increasing at 60% of NDDP. The districts like Patna, Begusarai, Munger and Bhagalpur which are higher per capita NDDP, are very less share in primary sector. The share of industrial sector has started increased during the period 2005-2010. Structure of Bihar's economy is changing not only at state level, but at district level also. And these changes need to be more carious planning and good initiatives from Govt.

Objectives:

The objective of the study is to

1) To analyse the pattern and trends of growth rate and the structural change of the Bihar Economy in the post-liberalization era.
2) To find out what extent the population of Bihar benefited from India's development over the last 30 years.
3) To find out the structural obstacles of inclusive growth of Bihar since 1991.
4) To examine the impact of various policies of Bihar government on primary, secondary and tertiary sector.

Hypothesis:

1. There is direct relationship between political stability, policy implementation, and economic reforms in relation to economic growth.
2. Focused investments in social sectors have potentially contributing to long-term economic development in Bihar.

Data Sources:

Major part of this study is depend on secondary data sources and Primary source will be used if there is any requirements during the study. Some sources of secondary data from which data will used in this study are -

1. Various data set has been borrowed from various reports of the National Institution of Transforming India (NITI) database, the Economic &weekly political Research foundation (EPWRF), Economy Survey of India and Bihar.
2. Several rounds of Employment and unemployment survey (EUS) and the first periodic labor force survey data have been extracted for the sector-wise employment data for Bihar(NSSO; PLFS)
3. For this, the data was collected from the statistical handbook of Bihar and Bihar factsheets, published by the Govt. of Bihar.

Research Methodology:

1. For this present study, the period of development in Bihar is divided three phase;

a) First phase, 1991-2004

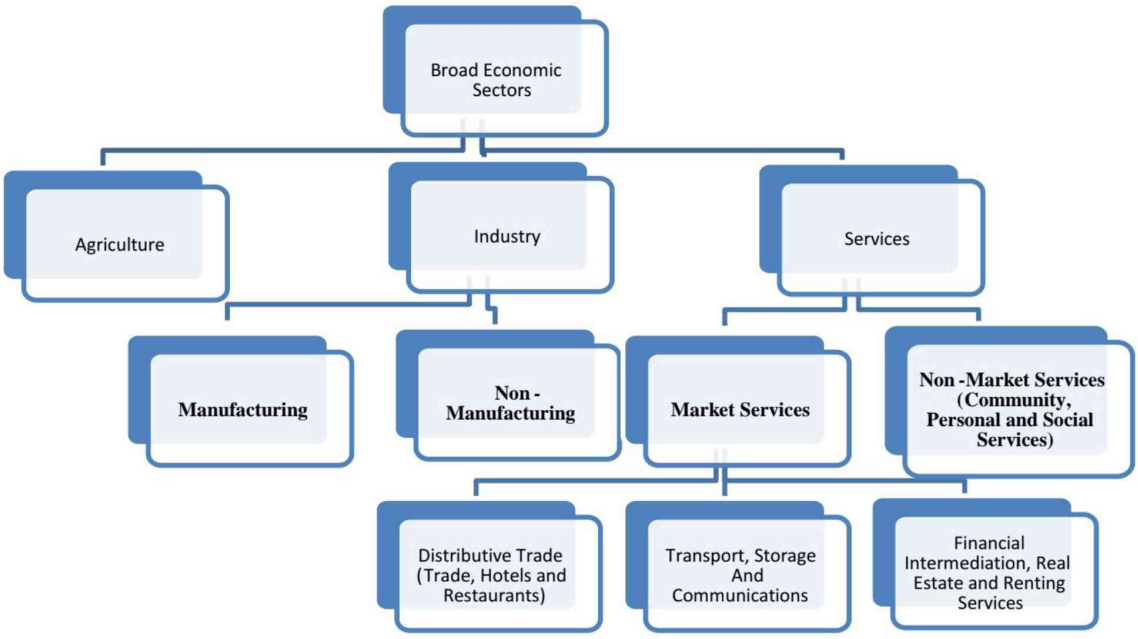
b) Second phase, 2005-2014

c) Third phase, 2014-2023

2. Descriptive Analysis:

This study use descriptive statistics to provide an overview of the longitudinal data. This may include mean, median, standard deviation, and other relevant measures for each time point. Analysing data sets that include observations over multiple time periods for the same entities to account for individual heterogeneity and temporal dynamics. Use trend analysis to identify any underlying long-term trends in the data in following categories-

Figure 1: Economic sectors and their components



3. In this proposed study Granger Causality test will be used to determine the direction of causality between the social sector expenditure and the GSDP. Granger Causality is a kind of statistical feedback. This theorem states that a time series Y is said to be caused by a time series X, if current value of Y can be better predicted by best value of X and Y than past value of Y alone. Clearly, this theorem is based on the improvement of the predictive efficiency of the model with the introduction of the best value of X. To test the causality following model will be used:

$$Y_t = \alpha \sum_{i=1}^{a} \beta_1 Y_{t-1} + \sum_{i=1}^{r} Y_i X_{t-i} + v_{1t} \quad \text{(i)}$$

$$Y_t = \alpha^1 \sum_{i=1}^{n} \beta^1 Y_{t-1} + \sum_{i=1}^{m} Y_i X_{t-i} + v_{2t} \quad \text{(ii)}$$

$$\text{or as} \begin{bmatrix} \Phi_1 \Phi_{12} \\ \Phi_{21} \Phi_{22} \end{bmatrix} \begin{bmatrix} Y_t \\ X^t \end{bmatrix} \begin{bmatrix} a \\ a^1 \end{bmatrix} \begin{bmatrix} V_1^t \\ V_2^t \end{bmatrix} \quad \text{(iii)}$$

Where Φab (a, b=1, 2) are as defined above.

Granger bivariate casualty can be deduced as:

(i) $X_t \rightarrow Y_t$ (X_t cause Y_t if $\Phi_{12} \neq O$)

(ii) $Y_t \rightarrow X_t$ (Y_t cause X_t if $\Phi_{21} \neq O$)

(iii) $X_t \rightarrow Y_t$ (X_t cause Y_t and Y_t cause X_{t1} if neither Φ_{12} nor Φ_{21} is zero)

(iv) X_t and Y_t are independent if $\Phi_{12} = \Phi_{21} = O$

4. Using Time Series Regression:

I will collect larger dataset of different sector output or value added over multiple years, and employ a time series regression model to capture the trend and potentially identify factors influencing growth:

`Growth_t = α + β * Time_t + ε_t`

Where:

- `Growth_t`: Growth rate of primary sector output/value added in year `t`

(Average Growth Rate (%) = [(Value_added_t - Value_added_(t-1)) / Value_added_(t-1)] * 100

- `Value_added_t`: sector value added in year `t`
- `Value_added_(t-1)`: sector value added in the previous year (`t-1`)

This calculates the average annual growth rate between two years. We can repeat this calculation for multiple years to observe the trend over time.)

- α: Constant term
- β: Coefficient of the time trend variable (`Time_t`)
  - A positive β indicates an upward trend in growth, while a negative β suggests a downward trend.
- `Time_t`: Time variable (can be year, quarter, etc.)
- ε_t: Error term

This is a basic time series model. I will add additional explanatory variables (e.g., government policies, technological advancements) to the model if relevant to my research question.

5. Using Growth Rates and Sector Dummy Variables (Panel Data Approach):

For panel data (observations for multiple sectors over time), this approach is well-suited for analysing growth trends while accounting for differences between sectors.

Equation:

$$Growth_{it} = \alpha + \beta_t * Time_t + \gamma_i * Sector_i + \varepsilon_{it}$$

Where:

- $Growth_{it}$: Growth rate of an economic indicator (e.g., output, value added) for sector i at time t (calculated using the method described in the previous response)
- α: Constant term
- β_t: Coefficient of the time trend variable ($Time_t$)
    - Represents the average growth trend across all sectors.
- γ_i: Coefficient of the sector dummy variable ($Sector_i$)
    - There will be a separate dummy variable for each sector (except for a reference category omitted to avoid multicollinearity).
    - A positive γ_i for a sector indicates its growth rate is higher than the average trend (β_t), while a negative γ_i suggests a lower growth rate.
- ε_{it}: Error term

This model allows you to estimate both the overall growth trend (β_t) and the deviation from that trend for each sector (γ_i).

Tentative chapters are the following:-

Chapter – I: Introduction

Chapter- II: Review of Literature

Chapter- III: Research Methodology

Chapter- IV: Analysing trends of growth in primary sector of Bihar since 1991

Chapter- V: Analysing trends of growth in secondary and tertiary sector of Bihar since 1991

Chapter- VI: Policy Analysis and Evaluation

Chapter- VII: Summary, Conclusion and suggestion

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